

CLAIMS

1. A multilayer wiring board comprising at least two wiring boards,

5 each of the wiring boards comprising an insulating substrate and a wiring pattern which comprises a conductive metal,

at least one of the at least two wiring boards having the wiring patterns on both surfaces of the insulating
10 substrate,

at least part of the wiring patterns on the insulating substrate being connected via a conductive metal in a through hole through the insulating substrate,

the wiring boards being electrically connected by
15 joining of low-melting conductive metal layers on connection terminals at the mating surfaces of the wiring boards, and

the at least two wiring boards being bonded by means of a polyimide adhesive resin that is selectively applied by screen printing on the wiring boards other than on the
20 connection terminals.

2. The multilayer wiring board according to claim 1, wherein the polyimide adhesive resin includes a heat-curable polyimide.

3. The multilayer wiring board according to claim 1 or 2, wherein the polyimide adhesive gives a cured product having a dielectric constant of 3.1 to 3.7.

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4. The multilayer wiring board according to claim 1, wherein the conductive metal is inserted in the through hole through the insulating substrate by steps comprising:

placing a conductive metal foil on an insulating
10 substrate, the conductive metal foil having a thickness equal to or greater than that of the insulating substrate; and

punching the conductive metal foil, said punching
punching out a conductive metal piece, the conductive metal
piece punching out the insulating substrate and being inserted
15 in the hole punched in the insulating substrate to electrically connect the front and back surfaces of the insulating substrate;

or wherein the conductive metal is inserted in the
through hole through the insulating substrate by steps
20 comprising:

placing a conductive metal foil on an insulating
substrate, the insulating substrate having a punching hole,
the conductive metal foil having a thickness equal to or greater
than that of the insulating substrate; and

punching the conductive metal foil, said punching
punching out a conductive metal piece and being inserted in
the punching hole in the insulating substrate to electrically
connect the front and back surfaces of the insulating
5 substrate.

5. The multilayer wiring board according to claim 1,
wherein the conductive metal is inserted in the through hole
through the insulating substrate by steps comprising:

10 placing a conductive metal foil on a metal clad laminate,
the conductive metal foil having a thickness equal to or greater
than that of the metal clad laminate; and

punching the conductive metal foil, said punching
punching out a conductive metal piece, the conductive metal
15 piece punching out the insulating substrate and being inserted
in the hole punched in the metal clad laminate to electrically
connect the front and back surfaces of the insulating
substrate;

or wherein the conductive metal is inserted in the
20 through hole through the insulating substrate by steps
comprising:

placing a conductive metal foil on a metal clad laminate,
the metal clad laminate having a punching hole, the conductive

metal foil having a thickness equal to or greater than that of the metal clad laminate; and

punching the conductive metal foil, said punching punching out a conductive metal piece and being inserted in the punching hole in the metal clad laminate to electrically connect the front and back surfaces of the insulating substrate.

6. The multilayer wiring board according to claim 1 or 4, wherein the insulating substrate is an insulating resin film having flexibility.

7. The multilayer wiring board according to claim 1, wherein the low-melting conductive metal layer is at least one plated metal layer selected from the group consisting of plated solder layer, plated lead-free solder layer, plated tin layer, plated gold layer and plated nickel-gold layer.

8. The multilayer wiring board according to claim 1, wherein a first conductive metal layer on an electrical connection surface of a wiring board 1, and a second conductive metal layer on an electrical connection surface of a mating wiring board electrically connected with the wiring board 1 have at least one combination selected from the group

consisting of plated solder layer/plated nickel-gold layer,
plated tin layer/plated nickel-gold layer, plated solder
layer/plated solder layer, plated tin layer/plated
nickel-gold layer, plated lead-free solder layer/plated
5 lead-free solder layer, plated lead-free solder layer/gold
paste layer, and plated gold layer/plated gold layer.

9. The multilayer wiring board according to claim 1,
wherein the wiring patterns comprise a conductive metal
10 containing copper or a copper alloy.

10. The multilayer wiring board according to claim 1,
wherein the conductive metal inserted in the through hole
through the insulating substrate contains copper or a copper
15 alloy.